

Notice of Allowability

Application No.

10/043,970

Examiner

Lixi Chow

Applicant(s)

FASEN ET AL.

Art Unit

2627

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 6/12/06.
2. ☒ The allowed claim(s) is/are 1-3, 5-7, 9-11, 13, 26 and 27.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: ____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date ____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date ____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date ____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date ____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other ____. |

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Walter W. Karnstein on 8/17/06.

The application has been amended as follows:

- (1) replace the word "continually" on line 11 of claim 9 to --oppositely--;
- (2) replace the word "continually" on line 9 of claim 13 to --oppositely--;
- (3) replace the word "continually" on line 15 of claim 27 to --oppositely--.

Allowable Subject Matter

2. The following is an examiner's statement of reasons for allowance:

In regards to claim 1, although the closest prior art of record, i.e., Kasanuki et al. (US 5,418,771), disclose a capacitance-based position/alignment sensor, wherein the configuration of the first plate and second plates results simultaneously in two spaced-plate capacitors having capacitances that vary continually as the objects move relative to one another; however, Kasanuki et al. do not teach the two-spaced-plate capacitors having capacitances that vary oppositely as the objects move relative to one another. Therefore, none of the reference of record alone or in combination disclose or suggest a movable system having capacitance-based position sensing, comprising:

a pair of objects;

an actuator configured to effect an operative range of relative motion between the objects along an axis; and

a capacitance-based position sensor, including

a first plate secured to one of the object; and

a pair of second plates secured to the other of the objects so that the second plates are adjacent and coplanar, and so that the second plates are spaced from, and parallel to, the first plates as the objects move relative to one another along the axis, and such that the second plates in use come into simultaneous overlap with the first plate,

where the configuration of the first plate and second plates results simultaneously in two spaced-plate capacitors having capacitances that vary oppositely as the objects move relative to one another throughout the operative range along the axis, where the capacitance-based position sensor uses the capacitances to generate output usable to determine relative position of the objects along the axis throughout the operative range along the axis;

where the capacitance-based position sensor is configured so that the output is substantially independent of perpendicular spacing variations occurring between the first plate and the second plates.

Claims 2 and 3 depend from claim 1; hence, these claims are also allowed.

Claims 5, 9, 13, 26 and 27 recite similar limitations as claim 1; hence, these claims are allowed under the same reasons set forth above in claim 1.

Claims 6, 7, 10 and 11 depend from claim 5 or 9; hence, these claims are also allowed.

3. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue

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fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lixi Chow whose telephone number is 571-272-7571. The examiner can normally be reached on Mon-Fri, 8:30am to 6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, A. L. Wellington can be reached on 571-272-4483. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

LC 8/17/06


ANDREA WELLINGTON
SUPERVISORY PATENT EXAMINER